



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,214	08/21/2006	Katsuyoshi Kado	014737-000002	1239

24239 7590 08/13/2009
MOORE & VAN ALLEN PLLC
P.O. BOX 13706
Research Triangle Park, NC 27709

EXAMINER

JONAITIS, JUSTIN M

ART UNIT	PAPER NUMBER
----------	--------------

3752

MAIL DATE	DELIVERY MODE
-----------	---------------

08/13/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/598,214	Applicant(s) KADO ET AL.	
	Examiner JUSTIN JONAITIS	Art Unit 3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/21/2006 & 05/28/2008</u> . | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 3752

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 7, 11, 12, 15, & 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, applicant claims angles formed by the intersection of various planes, none of which are recited in such a way to force the selection of a specific plane.

3. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, it's unclear how the device claimed in independent claim 2 could have at least one arm, and then needs to be a pair of arms. Further it's not entirely clear if the pair of arms is a second set of arms or the arms that were disclosed in independent claim 2. For examination purposes, examiner will assume claim 1 has at least a pair of arms, and claim 2 is further disclosing the arms.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 3752

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent # 5,154,323 to Query et al. in view of U.S. Patent #4,821,961 to Shook.

In re claim 1, Query discloses a device for spraying chemicals comprising a hollow support (nozzle (22)) having a connection passage (applicator rod (18)) in communication with the support and a connection passage in communication (straw (28)) with the nozzle stem (valve stem (10)) at the top of an aerosol vessel (can (2)), where the support is arranged laterally relative to the aerosol vessel. Further Query discloses a means to actuate the nozzle stem (actuator button (16)).

Art Unit: 3752

Query fails to disclose the device having a rotating nozzle rotatably supported at the tip end of the support, wherein an arm orifice is provided at the tip end of the passage of the rotating nozzle and is formed in a direction in which the rotating nozzle is rotated by a reaction force of spray so the aerosol contents are sprayed forwardly of a rotating plane.

However, Shook teaches it is known to have a rotating nozzles which are rotatably supported on the end of the support (body(33)) with two arm orifices (orifices (85) & (89)) provided at the tip of the end of the passages of the rotating nozzle (bores (75) & (77)) , and formed in a direction in which the rotating nozzle is rotated by a reaction force of spray [column 3, lines 57-63] so the spray are sprayed forwardly of a rotating plane, in order to provide a self-rotating nozzle which is simple in construction, efficient in operation, and is economical to manufacture and maintain, especially over a device using only a single jet. [column 1, lines 10-41]

It would have been obvious to having ordinary skill in the art at the time the invention was made to replace the nozzle of Query with the nozzle taught by Shook in order to provide a rotating nozzle with benefits that outweigh single jet nozzles, such as spray patterns, speed, and efficiency.

In re claims 2-5, 10, & 14, Query discloses a device for spraying chemicals comprising a connection pipe (straw (28)) mounted at a top of an aerosol vessel (can (2)) and having a connection passage (orifice (30)) in communication to a nozzle stem (valve stem (10)) of the aerosol vessel to have an outlet directed laterally relative to the aerosol vessel, a means to actuate the nozzle stem (actuator button (16)) a hollow support (nozzle (22)) having a connection passage (applicator rod (18)) connected to the outlet of the connection pipe to

Art Unit: 3752

extend substantially perpendicular to an axis of the aerosol vessel, Where the connection pipe and the support are connected together through a substantially stiff pipe (joint (26) connects another stiff pipe from applicator rod (18) to nozzle (22)).

Query fails to disclose the support being rotatable about an axis having a pair of arms in which arm orifices are formed at a tip end of the passage of the arm so the arm is rotated by reaction force of spray, where the pair of arms are symmetrical about the support, and part of the tip end surface of the arm or the arms are formed to define a slope of a predetermined angle and the orifice is formed perpendicular to the slope.

However, Shook teaches it is known to have a rotating nozzles which are rotatably supported on the end of the support (body(33)), with two arms (one located on side of the center of the body) that are angled at a predetermined slope, with two arm orifices (orifices (85) & (89)) provided at the tip of the end of the passages and perpendicular to the slope of the rotating nozzle (bores (75) & (77)) , and formed in a direction in which the rotating nozzle is rotated by a reaction force of spray [column 3, lines 57-63] so the spray are sprayed forwardly of a rotating plane, in order to provide a self-rotating nozzle which is simple in construction, efficient in operation, and is economical to manufacture and maintain, especially over a device using only a single jet. [column 1, lines 10-41]

It would have been obvious to having ordinary skill in the art at the time the invention was made to replace the nozzle of Query with the nozzle taught by Shook in order to provide a rotating nozzle with benefits that outweigh single jet nozzles, such as spray patterns, speed, and efficiency.

In re claims 6-9, 11-13, 15-17, Query in view of Shook teaches the invention as described above including the device wherein a line of intersection of a plane, which is

Art Unit: 3752

perpendicular to a plane, including a center line of rotation of the arm and an axis of the arm and in parallel to the center line of rotation of the arm and the slope has an angle of at least 15 degrees but less than 90 degrees relative to a plane perpendicular to the center line of rotation of the arm. The device disclosed by Shook has an infinite number of plains to be chosen to meet these limitations.

Query however fails to disclose the slope having an angle of at least 15 degrees but less than 90 degrees to produce a spray that is larger than 0 degrees but smaller than 45 degrees.

However, It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the appropriate slope angles in order to provide the correct spray pattern, since it has been held that discovering an optimum value of a result effective variable requires only routine skill in the art.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent #4,081,138 to Behr discloses a nozzle with similar structure and components. U.S. Patent #7,032,837 to Eddins et al. discloses a sprayer with two arms which rotate. U.S. Patent #5,217,163 to Henshaw discloses a rotating nozzle with similar structure. U.S. Patent #3,931,930 to Waldrum discloses a rotating nozzle with similar structure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUSTIN JONAITIS whose telephone number is (571)270-5150. The examiner can normally be reached on Monday - Thurs 6:30am - 5:00 pm EST.

Art Unit: 3752

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571)272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JUSTIN JONAITIS/
Examiner, Art Unit 3752

/Len Tran/

Supervisory Patent Examiner, Art Unit 3752